

Docket No. F-8866

Ser. No. 10/554,037

AMENDMENTS TO THE CLAIMS:

Please replace the claims with the claims provided in the listing below wherein status, amendments, additions and cancellations are indicated.

1-10. (Cancelled)

11. (New) A power generating system comprising:

a power generator generating DC power;

an inverter circuit for converting said DC power generated by said power generator into AC power, said inverter circuit having an input side and an output side;

said power generator having power generating modules each comprising solar power generating granular cells and electric storage means connected in parallel within each of said power generating modules;

said solar power generating granular cells each having a positive output electrode and a negative output electrode;

a positive bus and a negative bus connected to said input side of said inverter circuit;

said power generating modules each having:

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said solar power generating granular cells physically arranged in a matrix having rows and columns wherein each of said solar power generating granular cells is disposed in both one of said rows and one of said columns;

said solar power generating granular cells in each of said rows being electrically connected in parallel with each other and one of said electric storage means;

said solar power generating granular cells in each of said columns being electrically connected in series, said columns having aligned first ends whereat ones of said positive output electrodes of ones of said solar power generating granular cells disposed at said first ends are disposed, and said columns having aligned second ends whereat ones of said negative output electrodes of ones of said solar power generating granular cells disposed at said second ends are disposed;

a positive module electrode electrically connected to said ones of said positive output electrodes at said first ends of said columns; and

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a negative module electrode electrically connected to said ones of said negative output electrodes at said second ends of said columns;

a plurality of first switch means for selectively connecting at least all but one of said positive module electrodes of said power generating modules to said positive bus;

a plurality of second switch means for selectively connecting said positive module electrodes of said power generating modules to said negative module electrodes of adjacent ones of said power generating modules so as to selectively effect serial connection of said power generating modules;

a plurality of third switch means for selectively connecting at least all but one of said negative module electrodes of said power generating modules to said negative bus;

a control device for controlling said first, second and third switch means; and

said power generator and said inverter circuit being mounted in a common power generating panel.

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12. (New) The power generating system according to claim 11, further comprising:

a first substrate having an upper surface, said upper surface having mounted thereon said power generating modules, said first switch means, said second switch means, and said third switch means;

a second substrate having mounted thereon said inverter circuit and said control device;

a main case housing said first substrate and said second substrate;

a cover member covering an opening of said main case;

said electric storage means being disposed between said first substrate and said second substrate; and

said electric storage means, said first substrate and said second substrate being embedded in transparent resin inside said main case with said cover member installed thereon to form said common power generating panel.

13. (New) The power generating system according to claim 11, wherein:

said first, second and third switch means are individually comprised of semiconductor switching elements; and

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said control device is configured to switch an output voltage of said power generator in multi-levels by selectively switching said first, second and third switch means.

14. (New) The power generating system according to claim 13, wherein:
said power generating modules are divided into a plurality of groups;
said control device controls said first and third switch means to connect in parallel said groups of said power generating modules using said positive bus and said negative bus; and
said second switch means connect said power generating modules in respective ones of said groups in series.

15. (New) The power generating system according to claim 13, wherein said inverter circuit comprises semiconductor switching elements and said semiconductor switching elements are controlled by said control device.

16. (New) The power generating system according to claim 13, further comprising voltage detection means for detecting a voltage of an AC power system to which said power generation system supplies power thereto, wherein said control device controls said first, second and third switch means and said

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semiconductor switching elements of said inverter circuit based on detection signals of said voltage detection means.

17. (New) The power generating system according to claim 11, wherein said power generator includes fuel cells each of which is layered with a plurality of single cells and said power generation unit is comprised of said single cells.

18. (New) The power generating system according to claim 11, wherein said electric storage means is an electric double layer capacitor.

19. (New) The power generating system according to claim 11, wherein said electric storage means is a secondary battery.

20. (New) The power generating system according to claim 11, wherein for each of said power generating modules:

said solar power generating granular cells in each of said rows are fixedly electrically connected in parallel with each other and one of said electric storage means;

said solar power generating granular cells in each of said columns are fixedly electrically connected in series;

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said electric storage means are fixedly connected in series;

said positive module electrode is fixedly electrically connected to said ones of said positive output electrodes at said first ends of said columns; and

said negative module electrode is fixedly electrically connected to said ones of said negative output electrodes at said second ends of said columns.

21. (New) The power generating system according to claim 20, further comprising:

a first substrate having an upper surface, said upper surface having mounted thereon said power generating modules, said first switch means, said second switch means, and said third switch means;

a second substrate having mounted thereon said inverter circuit and said control device;

a main case housing said first substrate and said second substrate;

a cover member covering an opening of said main case;

said electric storage means being disposed between said first substrate and said second substrate; and

said electric storage means, said first substrate and said second substrate being embedded in transparent resin inside said main case with said cover member installed thereon to form said common power generating panel.

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22. (New) The power generating system according to claim 20, wherein:
said first, second and third switch means are individually comprised of semiconductor switching elements; and
said control device is configured to switch an output voltage of said power generator in multi-levels by selectively switching said first, second and third switch means.

23. (New) The power generating system according to claim 22, wherein:
said power generating modules are divided into a plurality of groups;
said control device controls said first and third switch means to connect in parallel said groups of said power generating modules using said positive bus and said negative bus; and
said second switch means connect said power generating modules in respective ones of said groups in series.

24. (New) The power generating system according to claim 22, wherein
said inverter circuit comprises semiconductor switching elements and said semiconductor switching elements are controlled by said control device.

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25. (New) The power generating system according to claim 22, further comprising voltage detection means for detecting a voltage of an AC power system to which said power generation system supplies power thereto, wherein said control device controls said first, second and third switch means and said semiconductor switching elements of said inverter circuit based on detection signals of said voltage detection means.

26. (New) The power generating system according to claim 20, wherein said power generator includes fuel cells each of which is layered with a plurality of single cells and said power generation unit is comprised of said single cells.

27. (New) The power generating system according to claim 20, wherein said electric storage means is an electric double layer capacitor.

28. (New) The power generating system according to claim 20, wherein said electric storage means is a secondary battery.